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Chapter title

Playground games and activities in school and their role in development

Authors' Name

Ed Baines and Peter Blatchford

Authors' Affiliation

Psychology and Human Development, Institute of Education - University of London, UK

Abstract and Keywords

This chapter examines the role of school playground games in children's development. Games and play take place in a range of settings, both in and outside of the home, in gardens, parks, on the streets, designated playgrounds or other locations. They also take place and are often studied on the school playground and this will be the main context in which the role of games and other playground activities will be discussed here. The school playground is a useful research site because it is one of the few locations where children interact in a relatively safe environment, free of adult control, and when their play, games and social relations are more their own. There is an appreciation by many researchers that much can be learned about children from studying their behavior and experiences whilst engaged in play and games (see Blatchford & Sharp, 1994; Pellegrini, 2005; Pellegrini & Blatchford, 2000; Smith, 1994; Sutton-Smith, 1982). Although playground activities express something about the individual child, individuals on the playground are situated and live their lives in complex social structures. Social structures involve and are expressed through e.g., play, games, even hanging around, and the study of playground activity can help with the understanding of peer relations in terms of friendship, peer groups and social status. A key message in this chapter therefore is that if we want to find out about children's social and psychological development, including their relationships with peers and the acquisition of social and cognitive skills, then we need to study how these arise out of the everyday reality of children's playful activities and interactions with others in everyday contexts.

The chapter draws mainly on psychological research on games and social activities that children participate in during middle childhood and to some extent adolescence. There are five main sections which cover the following issues.

- The current status and context of play outside and inside school.
- Definitions of games and perspectives on their role in development.
- How games and social activities change with development during and beyond middle childhood, how this varies by sex and how games are learned from other children.
- The role playground games have in supporting peer relationships and the development of social-cognitive skills.
- The role of games in relation to learning and engagement in the classroom, school belonging and adjustment.

For illustration we draw on several of our own research projects, in particular the Nuffield Foundation funded national surveys of recess (or breaktime as it is called in the UK) in schools (conducted in 1995 and 2006) and pupil views on recess and social life outside of school (Blatchford & Baines, 2006; Blatchford & Sumpner, 1996), and a Spencer Foundation funded project on playground activities and peer relations in UK and US schools (Baines & Blatchford, 2009; Blatchford, Baines & Pellegrini, 2003; Pellegrini, Kato, Blatchford & Baines, 2002; Pellegrini, Blatchford, Kato & Baines, 2004). Reported data will come in the main from the UK part of this project, including unreported data from a three year follow up, unless otherwise stated. We will refer to these as the 'Nuffield' and 'Spencer' projects respectively.

Keywords: Games; games-with-rules; recess; breaktime; peer relations; friendships; peer groups; sex differences; school adjustment

Introduction

In the US and UK, play and games and the contexts within which they occur are different to those 20 or even 10 years ago. These changes provide insights into the way games and play more generally are viewed and valued within our societies and school systems. The complex social, economic, and cultural changes over this period have inevitably affected opportunities for children and young people to engage in games and other social activities outside of school and the home (Elkind, 2007; Furedi, 2002; Gill, 2007; Nichols & Good, 2004). While advanced communication technologies have led to increased social connection at one level, people are leading increasingly separate lives with fewer opportunities for face-to-face interactions with peers and friends (see Goldstein, this volume). The rise in home entertainment, modern constraints such as increased traffic, pressure on space in cities, and policies and behaviors prompted by concerns about risk taking, bullying and strangers are functioning to keep children inside the home. Parents are discouraged from allowing their children unsupervised movement out of the home so that they become unable to benefit from free play and opportunities to learn through experience, appropriate risk and even mistakes. For example, surveys since the early 1990s show that students in the UK, at least, are less likely to walk to school, that large proportions of 8-10 year olds had never been to a park, shops or played out with their friends unsupervised, and that nearly a third of 8-15 year olds rarely meet friends outside of school (Blatchford & Baines, 2006; Hillman, 1993; Home Office & DCSF, 2005). An unlikely source of reduction in free play opportunities comes from the increase in adult led after-school provision designed to provide care and/or additional learning opportunities while busy parents work.

There are suggestions that these constraints are affecting the wellbeing of our children with public debate and concerns about bullying, anti-social behavior and youth violence (Margo & Dixon, 2006; Nichols & Good, 2004) as well as concerns about physical and mental health (Layard & Dunn, 2009; Nichols & Good, 2004), and declining moral values (Public Agenda, 1999, cited in Nichols & Good, 2004). A recent report from UNICEF (2007) indicated that on several indices US and UK children were less happy and had more difficulties with peers than those in other OECD countries. The Children's Society national enquiry in the UK indicated that the number of teenagers with no best friends had increased over the past 16 years, while those who reported being assaulted or threatened by a peer had also increased (Layard & Dunn, 2009).

Within schools there are also limited opportunities for play and social interaction with peers. Studies of classroom practice highlight that at primary and to some extent secondary levels, classroom life is dominated by whole class teaching and independent seatwork (Baines, Blatchford & Kutnick, 2003; Galton, Hargreaves, Comber, Wall & Pell, 1999; Weinstein, 1991). Within school classrooms students are given few opportunities to work and interact with peers and friends (Epstein, 1989). Children that are friends are often separated for fear of increased off task activity or disruption (Zajac & Hartup, 1997).

Such reduced opportunities for play and peer interactions emphasize the importance of those few remaining times, such as at recess in school, which provide opportunities for children to play and interact with peers and develop friendships. But here too there are indications of progressive reductions in time available for recess in the US, UK and Australia (Evans, 1990; Patte, 2006; Pellegrini, 2005). In the US many states do not require a statutory recess break and many school systems have abolished recess (Jarrett & Maxwell, 2000; Simon & Childers, 2006) sometimes in favor of additional PE (Pellegrini, 2005). In the UK the current situation is slightly better with most students experiencing a short morning break of approximately 15 minutes as well as a lunch time of up to one hour. The Nuffield research, which consisted of two recent national surveys of approximately 6-7% of all primary and secondary schools in the UK, found a growing trend over the past 15-20 years for a reduction in the length, or even virtual elimination, of recess from the school day (Blatchford & Baines, 2006; Blatchford & Sumpner, 1998).

Previously, longer lunch times and an afternoon recess were common. Reasons presented for reductions in recess were to increase curriculum time and as a response to worsening behavior of students. Ongoing concerns about anti-social behavior in school have led to calls for the reduction and elimination of recess (Galton & MacBeath, 2004) and the construction of new schools without space or opportunities for unstructured play activity (The Observer, 2007). The Nuffield survey indicated that school staff views on the value of recess varied with the majority highlighting it as an opportunity to let off steam, get physical exercise and for the development of social skills, though secondary schools valued it in more functional terms (e.g., as a time to eat). In contrast to concerns about bullying and disruptive behavior, we found that the large majority of children enjoy recess and valued it in terms of the opportunities it provided for meeting with friends and other peers. The Nuffield research, which also involved a survey of over 1300 children and adolescents, suggests that only 4-6% of pupils are negative about recess. There is no evidence at all that pupils' feel recess should be further eroded, in fact many expressed the view, and increasingly with age, that it should be extended or remain the same length.

The current lack of opportunities outside of school for young people to engage in playful recreation highlights the importance of a prescribed school recess for all children. A positive view of recess highlights the inherent value and positive benefits it may have on a number of fronts. During middle childhood, recess (where it exists) is often a time for vigorous physical activity, and has an obvious function in relation to worries about sedentary life styles and childhood obesity (Stratton & Mullan, 2005). Indeed, a recent review suggests that recess in primary school can contribute up to 40% of boys' and 30% of girls' recommended amount of daily physical activity (Ridgers, Stratton & Fairclough, 2006). As highlighted by folklorists, recess is a main context for cultural transmission through participation in a wide array of play, games, rituals and social activities that are instigated and controlled by children and where adult involvement undermines the spontaneity, creativity and delight of the game (Bishop & Curtis, 2001; Opie & Opie, 1969; Opie, 1993). Recess, like play, has an intrinsic value in allowing children to have fun, to engage in social interaction with peers where friendships and peer groups (we use the term 'peer groups' to refer to 'cliques', 'social networks' and 'peer networks') are formed and maintained and where important social-cognitive skills are developed and social lessons learned (Sluckin, 1981). Recess also has important implications for school learning, engagement and overall adjustment (Blatchford & Baines, 2010).

(H1) The nature of games and perspectives on their role in development

In this section we examine the notion of games in relation to views of play and outline main perspectives on games relative to human development.

(H2) What are games and how are they different from play?

To date psychological research on children's games is relatively limited. This is particularly the case over the last 25 years or so. As noted by Pellegrini (2005) the most recent editions of the Handbook of Child Psychology (published in 1998 but also the more recent edition published in 2006) on social and personality development make little reference to games-with-rules. A main reason is the absence of a chapter on play. Pellegrini suggests this is also due to the difficulties associated with undertaking research on children's play and games in school settings, but it may also reflect an ambivalent view of the role of games in social and cognitive development. While games have been located in relation to play in traditional theoretical works in this area (Garvey, 1990; Piaget, 1962), more recent writings about play have aimed to disassociate games from play (Pellegrini, 2005; Rubin, Fein & Vandenberg, 1983; Smith, 2010). Much of this stems from efforts to clearly define play and this is seen most notably in the work of Rubin et al. (1983) in their review of play in the 4th edition of the Handbook of Child Psychology which specifically excludes games on

definitional grounds as well as a practical need to focus the review. But as we shall see in this section, although games have distinctive features that suggest that they may be different from play, a clear boundary is not easily drawn between them.

A main characteristic particular to games is that they involve rules and roles that have previously been established by others, are probably codified in some way and thus can be explicitly communicated. The existence of rules and roles places constraints on children's behavior within the game. These rules are much less flexible than the implicit rules and roles evident in peek-a-boo, rough-and-tumble (R&T) play and those negotiated during fantasy play (Smith, 2010; Vygotsky, 1978). As Garvey (1990) suggests the existence of codified rules renders games as "*social objects*" which can be "*recalled, talked about, evaluated, or planned in advance*" (p. 104). Rules associated with a game are set in advance and players must subordinate their desires and behavior to them (Pellegrini, 2005).

But in reality, games are more flexible than this. For example, the simple game of 'it' involves a chaser and chased but there are plenty of additional features that can be introduced to make the game more complex. Similarly there are multiple ways of playing a version of soccer where some rules are adapted or not applied (Opie & Opie, 1969). The rules used can involve extended negotiations between players, sometimes taking longer to decide than the playing of the game (Garvey, 1990). Similarly, in practice the rules and roles in many types of 'games' are locally negotiated and adapted to the local context (e.g. numbers of players). Children may play some of the roles or rules involved in one game and apply them to another or adapt the rules or structure to match the numbers of players, space and props available.

Determining whether children are playing a 'game' or engaged in play can be quite difficult for an observer and children may not make a clear distinction either. In the Spencer project the traditional game of 'cops and robbers', which involves both specific rules relative to chaser and chased but also a fantasy theme, was played in one school both as purely a chasing game with little reference to the theme but also by another group of children as a primarily fantasy play activity with some chasing. Other groups of children highlighted both components to provide a real mix of the fantasy and chasing elements. In practice sustaining a clear distinction between play and games is not straightforward. There is also nothing precluding the possibility of a game being played with a slightly different emphasis each time.

Another feature of games, highlighted by Rubin et al. (1983) and Piaget (1962), is that games require at least two people to engage in competitive activity. This is a main reason given for not including games in a definition of play since they involve an ulterior motive or goal, i.e. for a person or team 'to win', and are thus not engaged in for their own sake. This characterization of games draws on Piaget's investigation and definition of games. Piaget's work was limited to two types of games in particular – that of marbles and a relatively simple game played mainly by girls (the equivalent of which might be '40:40' or 'hide and seek'). Despite this limited investigation of games, Piaget indicated that children were less concerned about the competitive component of games.

"As a matter of fact, no child even from among the older ones, ever attributes very great importance to the fact of knocking out a few more marbles than his opponents. Mere competition is therefore not what constitutes the affective motive power of the game" (p.33, Piaget, 1932)

Piaget was keen to emphasize that children value games because they enjoy getting to know the rules of the game but more importantly the opportunity they provide to participate socially with others in joint activity. This emphasis is much more on the 'means' rather than the outcome of the activity.

There is no denying that some games do involve competition between persons. Racing games often pit individuals against each other and it may be that ranking in the social network hierarchy is based on how a child fares, over time, relative to peers. Equally there are many types

of games which involve relatively minimal amounts of competition (e.g. chasing games). In some cases a better term might be a 'challenge' – for example in various types of jump-rope (or skipping as it is called in the UK) games it is the challenge of how long a child can jump for rather than competition with other participants. Peers may be quick to point out where players have gone wrong but there is little emphasis on winners and losers. If the game were just about the winning, then many children might not participate in these activities. Those children not skilled at these games are often still keen to participate. Participation in games is an opportunity to hone and publicly demonstrate individual skills. Demonstrations of 'facility' in the activity may lead to enhanced social status and thus may represent competition within the peer group. But this is not the full story since other types of games also involve a social coordinative or collaborative element (particularly some girls' games but also team games). Success in these collaborative elements may also be necessary for social success. Bruner (1972) refers to anthropological research by Burridge in New Guinea where games have less of a competitive component and the aim of the game is for players to tie and receive equal shares. This type of game exists in a culture where equal sharing is highly valued.

For Rubin et al. (1983) both the presence of codified rules and competition are in direct conflict with at least two main components of play, its flexibility and engagement in the activity for its own sake. The overriding question is whether this formalization, due to rules, and varying emphasis on competition or social challenge, is enough to separate games from play. The play criteria suggested by Krasnor and Pepler (1980) emphasizes that play can involve flexibility in content and form, non-literality of the meaning of behavior and situation, intrinsic motivation or engagement in the activity for its own sake and involves enjoyment or positive affect (Krasnor and Pepler indicate that the more criteria that are present the more likely something is to be play than not play). Games certainly involve positive affect, engagement in the activity for its own sake as well as to compete with others or demonstrate skill and social coordination. Many games also have varying levels of non-literality as can be illustrated by 'cops and robbers', 'duck, duck, goose', and 'what's the time Mr. Wolf?'. While admittedly there is a tendency for the rules of games to be established by tradition and to be set prior to children embarking on the game, children are often innovative in their adjustment of games to suit the local constraints and conditions. In short there is little to suggest that games cannot be considered a form of play. In fact we might want to argue (consistent with the views of Piaget, (1932), Sutton-Smith, (1976), and Vygotsky (1978)) that the nature of play develops within the child alongside cognitive and social development.

An important feature of games is that they are invariably social activities conducted in small, large or very large groups of people (though some games can be solitary, e.g., patience and console activities). By contrast much play activity can be either solitary or social. Games can be less focused than play; the activity of a game may stretch all across the playground and/or involve multiple sites of action and multiple clusters of children interacting. There are also differences in the nature of the social interaction involved in play and games. Within social fantasy play there is an expectation of a certain amount of coordination between those involved but it is also acceptable for players to decide where their particular role or individual activity might go next. Children do cooperate and collaborate in fantasy play but there is less necessity for this to take place in order for the activity to exist. Participation in games is more about cooperating or collaborating in an activity where players assume or expect other players to abide by the rules and within the boundaries of fair play. In games such as 'hide and seek' a player would be perfectly within their right to assume that the hider had not 'hot-footed' it off home or somewhere completely out of the current context. Similarly, some players within a game of soccer or 'British Bulldogs' would be expected to collaborate together in their endeavor to catch others.

(h2) Theoretical perspectives on games and development

There are a number of theories that relate to the development of play and games. Many of these will not be covered here since their primary focus is on play rather than games and readers are referred to elsewhere (Goncu & Gaskins, this volume; Rubin et al., 1983; Ortega, 2003; and chapters in Pellegrini & Smith, 2005). Of the 20th century theorists, Piaget's work holds the most relevance to a discussion of games and social activities on the school playground. For Piaget, play and games were not of intrinsic interest but reflected social-cognitive development of the child and thus he did not discuss them in detail (Piaget, 1926, 1932, 1962).

Piaget (1962) suggested that game play emerged during the early years in school and was associated with the beginnings of operational thought where children begin to take account of alternate perspectives, control their own views and desires and to adapt their behavior to comply with the abstract publicly accepted rules of the game. In contrast to earlier forms of play, games-with-rules represent an interest in the social regulation of activity by way of adherence to codified rules. Children begin to coordinate their behavior and action with others (via rules), to cooperate and ultimately to collaborate in playful activity. Piaget suggested that early game play involved imitation of the play of older children to feel part of a larger and older social group rather than a real desire to engage or cooperate with playmates. During this period the child may adhere to the rules or make them up as he/she sees fit. Development in game play involves increasing personal knowledge of game rules to an appreciation that rules are collectively agreed but modifiable according to the needs of the group.

Such development is supported by an increasing ability to engage in coherent and complex dialogues, disputes and negotiations involving increasingly abstract content (Piaget, 1926) initially with another peer and later in larger groups (Baines & Howe, in press; Goncu, 1993). This final stage is often described as peers collaborating in abstract thought (e.g. discussions about game rules). Others have argued that experiences during games and play may be wrapped up in provoking developmental change (Garvey, 1990); when peers challenge each other on their understanding (e.g. of roles, rules, stereotypes, cheating and other aspects of the world around them) this may lead to socio-cognitive conflict and the development of new understandings.

(h3) An ecological perspective

Drawing on the work of Bronfenbrenner, we can apply an ecological approach to understanding the role of games and play in development. In his highly influential ecological systems model, Bronfenbrenner (1979) conceptualized the individual at the centre of a range of ecologically meaningful nested contexts from the 'microsystem', which relates to the school or family context, to more distant contexts such as the neighborhood and the political system. More recent authors have highlighted the presence of other smaller, more locally defined, contexts that exist within Bronfenbrenner's notion of the 'microsystem' of a school, such as the classroom and the playground and even within these contexts we can distinguish further nested contexts of formally or informally organized groups or groupings that the individual is involved in (Pellegrini & Blatchford, 2000; Baines et al., 2003; Kindermann & Valsiner, 1995). These contexts involve qualitatively distinct sets of relationships, rules, and dynamics that promote certain types of behavior and activity while hindering others. This connects very closely with work by ecological psychologists who highlighted the important role of the immediate environment as a factor in explaining everyday behavior (Barker & Wright, 1951), and the important notion of proximal, as opposed to distal, processes that arise in everyday interactions with others and are likely to have a profound effect on individual development (Bronfenbrenner & Ceci, 1994). Related to an ecological perspective is the following point from Sutton-Smith (1982) who argues that "*the most important thing to know about peer culture is what is going on there. That is, that we might learn more of the structure and more of the function if we first studied what the action is (that is) the performances that are central to children...*" (p. 68). The centrality of everyday activities and

interactions (with peers, adults etc.) is paramount since this is the location where the proximal processes and the more distal features of culture, school policies, classroom ethos, peer group attitudes and so on interconnect. Though we might view contexts as nested circles (Bronfenbrenner, 1979), or as a rope of twisted threads (Cole, 1996), the place where the proximal and distal features of social and cultural life converge on the individual child is through that child's direct actions and interactions with others in the ongoing context. It is during these interactions with others that proximal and distal processes are conveyed, imposed, negotiated and constructed.

(h1) How games change with development

The nature of play changes markedly with development, from simple forms of object play in the early years, increasing amounts of fantasy play and vigorous and sedentary object play, to activities often described as games-with-rules in middle childhood (Pellegrini, 2005; Smith, 2010). Such development is associated more broadly with changes in social and cognitive development. However, there is little understanding of how play and games change during middle childhood, once games-with-rules begin to be engaged in by children.

Taking account of Piaget's developmental model, we might expect games that involve rules to increasingly predominate activity at recess during middle childhood, at the expense of other forms of play, as they require experience and maturation for children to learn the rules. Furthermore there might be changes in the complexity of games played. In learning the rules children will need to use them when engaged in the game and to subordinate (or not) their perspectives to those of their peers and other players. Pellegrini et al., (2004) suggest that children move from simple chase activities to games such as soccer, American football, basketball etc. Similarly, Blatchford (1998) reported that 'traditional' chasing, catching and seeking games, such as 'What's the time Mr Wolf' and 'hide 'n seek' declined over the year (8-9 years), perhaps as a result of inherent limitations in the games. However some chasing games (e.g. 'British bulldogs', 'cops and robbers' and so on) can involve rather more complex rules, roles and characteristics than more simplistic chase activities. Therefore an increase in game play and game complexity might be expected with development.

A further aspect of game play that may change over middle childhood is the tendency for games to become increasingly a forum for social activity with increasing numbers of playmates and interaction partners. Middle childhood is about the time that the dominance of play in early childhood is joined by the emergence of friendships and social conversation (Hartup, 1996).

Descriptions of the types of play and games engaged in during middle childhood identify the vivacity and social complexity shown in the play of primary school children (Bishop & Curtis, 2001; Opie & Opie, 1969). However, in contrast with other aspects of children's play, there is little descriptive data on the frequency with which different types of games are played, (e.g., Holland, 2003; Pellegrini & Smith, 1998; Rubin et al., 1983). Boulton (1992; 2005) found that sociable contact between children, and rule games such as football, rounders and tag, as well as R&T play, were common activities. Similarly, drawing on self report data, Blatchford (1998) found that at 11 years playground activities were dominated by active games, in particular ball games and chasing games but also straightforward social activity such as talking to friends, hanging around and sitting down. While this study provides insights into the range and popularity of particular activities it does not tell us actual levels of engagement in these activities. In the Spencer project, which involved repeated systematic scan sampling observations of 7-8 year old children over a period of two weeks at the start (September) and the end of a year (June) in 4 schools in London, children spent recess primarily engaged in social activity (solitary activity was observed only 10% of the time) (Blatchford et al., 2003). There were three main types of activity, all of which usually involved peer interaction: first, conversation, second, play (vigorous, sedentary and fantasy play) and, third, game playing (chasing, catching and seeking games, racing games, ball games, jump skipping, games with materials, verbal

games). Play and games each accounted for about a third of activities observed and conversation a fifth of activities. The remaining 11% represented no activity, (i.e. when they were solitary or parallel onlooking/ unoccupied etc). A longitudinal follow up 3 years later (June), when the children were 10-11 years old, found a reduction in play activities to 14% of observations and an increase in conversational activities to 39% of observations. Levels of game play increased slightly to 37% and 'no activity' remained constant at 10%.

Of the types of games played over the three time points, there was an increase in ball games (8% to 15% to 25% across the three time points) and a decrease in racing and jump rope but chasing, catching and seeking games and verbal-hand clapping games remained constant at 7% and 2% respectively. These findings are broadly consistent with the theory that children play increasingly complex rule bound games (Pellegrini et al., 2004). Chasing, catching and seeking games did not decrease in incidence possibly because children engaged in more advanced forms. Such games may reduce substantially once children transfer to secondary school. As well as the influence on games of materials and spaces provided by schools, and the fact that secondary school playgrounds tend to be barren landscapes, there are also social processes that might discourage game play. Older children may influence the games that are played by determining what is and is not considered 'appropriate' (Blatchford, 1998). Views on the intrinsic value of certain types of games might change over time with some being considered dull or childish. More careful exploration of the nature and balance of social and non social factors affecting changes in games over time is still needed.

In the Spencer study, levels of R&T behavior were surprisingly low accounting for about 5% of observations at each time point. These estimates are low in comparison to other studies (e.g. Jarrett & Duckett-Hedgebeth, 2005), though the difference may be explained by the different sampling methods used (instantaneous as used in the Spencer study vs one-zero sampling over two minutes) and the age ranges studied (5th-9th graders). The most clearly anti-social behaviors in the Spencer study, such as aggression, teasing/taunting, disputing, were all infrequent at all three time points (with each accounting for 1-2% of observations), as were incidents when children were disciplined by an adult. Aggression, though rare, was most common during vigorous play and conversation, but not ball games (Blatchford et al., 2003; Pellegrini, et al., 2002). This is surprising given that ball games involve higher competitive spirits, physicality and a likelihood of accidental harm, than other activities but it may be the presence of game rules which function to provide order and reduce flashpoints. In general, findings suggest that social activities and games are common on the playground and that negative experiences are relatively rare (Jarrett & Duckett-Hedgebeth, 2005; Pellegrini et al., 2002; 2004).

Another aspect of games that appears to change over the course of middle childhood is the size of the social grouping engaged in the activity. Few studies provide full details of numbers of children involved in playground groups but Ladd, Price and Hart (1988) in a study of preschoolers between the ages of 3;6 and 4;6 report that average game-group sizes were around 1.48 – 1.62. These are rather smaller than the groups observed in the Spencer study where game networks ranged from 3.5 at the start of the year (7-8 year olds) to 3.9 at the end of the year and showed a further increase to 4.5 three years later (10-11 years old). Similar group sizes are reported by Boulton and Smith (1993) for 8-9 year olds. This suggests, as indicated earlier, that children socialize in increasingly large groups with development. Such a pattern may reflect increasing social and communicative competence since the communication skills required to coordinate dialogue, sustain a joint topic of conversation and/ or joint activity in larger groupings may be beyond many young children (Baines & Howe, in press). Alternatively, this may be a result of increased participation in team games that require greater numbers of players.

There have been few observational studies of games and activities during recess in secondary school. However, in a self report study of young people followed up at 16 years, after being originally questioned at 11 years (Blatchford, 1998), the main change was that games other than soccer had all

but disappeared. By 16 years the most popular activity was conversing with friends, hanging around and socializing (72%). The physically active nature of recess in primary school therefore contrasts with the more covert, sedentary and sometimes apparently unfocused activities of the last years at school. We should, however, be cautious about concluding that secondary recess activities are of less social importance. As they move through secondary school, pupils' social lives become important in new and deeper ways and are vital in their developing sense of who they are (Brown, 1990; Furman, 1989). The Nuffield pupil survey indicated that older children, more so than younger children, wanted longer recess periods (Blatchford & Baines, 2006).

Though secondary school playgrounds are not sites for play and games, the social groups that exist may be centered on a common activity or joint interest (Brown, 1990). Similarly such 'socializing' (particularly in mixed sex groups) can involve simple and complex forms of social play such as 'poke-and-push' and R&T activity, teasing, practical joking, chasing and catching, daring, and other individual-group affiliating activities. Differences in recess activities between primary and secondary sectors no doubt owe a lot to developmental factors but may also be connected to different policy and practice in the two sectors. This was suggested in the Nuffield study where it was found that recess in secondary schools was perceived by staff as more problematic but also received less attention and planning, less staff support and training, and fewer facilities (Blatchford & Baines, 2006). Staff also viewed recess in functional terms as time for a break and something to eat and drink rather than to socialize and play; it is little wonder that secondary schools are reducing opportunities for unstructured social time.

Although development moves from simple forms of play to games to socializing behaviors and activity, it should not be assumed that play and games die out during adolescence. On the contrary the substantial computer/console gaming leisure industry is a testament to the longevity of game play outside childhood. Furthermore, throughout childhood and adolescence, children become involved in formalized groups outside school that provide opportunities to engage in sports, cultural, fantasy and adventure (e.g. scouts) activities, may include training and are more serious than their equivalents on the playground. Successful transition into University life for young adults may be facilitated by the existence of organized interest-based clubs and groups. Such activities and leisure pursuits, clearly indicate that play, broadly conceived, continues long into adulthood and in many instances provides the glue that sustains and enhances friendship and family relationships (Argyle, 1992).

(h2) Sex differences in games and play activities

We have seen how games and other recess activities vary with age, however they also vary by sex. There is a substantial literature focused on the play and other activities of boys and girls highlighting that differences in early play styles and behavior may have a central role in explaining sex differences observed at later points in development (Maccoby, 1998; Serbin, Moller, Gulko, Powlishta & Colbourne, 1994). In this section we will examine sex differences in games and play activities during middle childhood. Reasons for these differences and the formation of single sex groups will be discussed later in this chapter.

Studies of sex differences in play and games have tended to highlight boys' greater engagement in physically vigorous activity (Maccoby, 1998; Pellegrini, 2005; Pellegrini et al., 2002; Rubin et al., 1983) and girls' preference for games requiring verbal facility (Maccoby, 1998). Findings from the Spencer study are consistent, with boys (at 7-8 and 10-11 years) being more likely to engage in physically vigorous fantasy play, ball games, R&T play, aggression and to be disciplined by adults. In contrast, girls were more likely to engage in conversation and verbal games and to show more positive affection. At 7-8 years, girls engaged in more sedentary play than boys and at 10-11 years higher levels of disputing were recorded. There were few changes in differences over time except, interestingly, girls doubled the amount of participation in ball games

from 6 to 12% of observations, a finding consistent with Piaget's view that rule games will become increasingly popular among girls and boys.

Studies of sex differences in the levels of fantasy play appear to be relatively equivocal about whether boys or girls engage in more fantasy play (Rubin et al., 1983; Smith, 2010). Pellegrini (2005) suggests that girls engage more frequently in fantasy play during pre-school. In contrast the Spencer study found that boys engaged in fantasy play more frequently than girls, at all three time points and even at 10 to 11 years the levels of boys' fantasy play (7%) were still slightly higher than they were for girls at any of the time points (2-6%). For boys, fantasy play is a context for R&T and physical activity, while for girls, fantasy play tends to be more sedentary (Fein, 1981). Boys' fantasy play is often based on action heroes in media (computer games, films, TV cartoons), while girls' fantasy play combines media characters with domestic and caring themes (Holland, 2003). The differences between studies in the levels of fantasy play for boys and girls might be explained by different definitions or differences between schools in the availability of play materials. Developmental changes are also a reasonable explanation with girls initially engaging in more fantasy play but then moving on to other activities once they reach school. One possible reason for the sex difference in levels of fantasy play reported in the Spencer study is that it offered those boys that do not engage in athletic/sporting games an outlet for physical activity.

Overall patterns of recess activity from the Spencer study indicate that boys spend more time engaged in games than girls, and their involvement in games and conversation increases over middle childhood (36% to 50% and 15% to 25% respectively). At the same time involvement in play declines (40% to 19%). Girls' interest in social conversation increases (from 26% to 52%) over middle childhood, while their interest in play and to some extent games, already less than boys, declines (32% to 11% and 30% to 26% respectively). Such findings are not dissimilar to those reported by Boulton and Smith (1993) who observed 8-9 year olds and Crombie and Desjardins (1993) (cited in Maccoby, 1998) who observed the free play of 9-10 and 11-12 year olds. Predictions that participation in games would increase over time at the expense of play therefore apply to boys but less so for girls. It is difficult to say that girls' involvement in games reduces between 8 and 11 years because we do not have data for the 3 years in between. However findings do attest to the increasing dominance for girls of conversation over play and possibly also games.

These findings introduce difficulties for Piagetian ideas about the development of games being driven by the cognitive complexity of rules but are consistent with ideas about play reflecting increased social coordination, interaction and intimacy, issues that girls appear to be more interested in. In comparing boys and girls, Piaget (1932) suggested that girls were less interested in a detailed understanding of game rules. However, some of the game-like (since the rules are not really codified) dancing routines that girls participate in on playgrounds can involve high levels of individual and social coordination and collaboration. These activities may be of equal complexity to many traditional rule games and are similar to jump-rope performances. Some groups of girls spend hours discussing, arranging and perfecting routines. Similarly, as suggested by Goodwin (2006), girls are often equally concerned with issues of rules, rights and social justice within games and peer relationships. What we are suggesting here is that the increased interest during middle childhood, in socially coordinated and regulated activity can express itself in different ways and different activities.

(h2) How games are passed on

Games and play activities at recess can have a life of their own and some games are sustained in a school for generations while others are dropped, maybe to resurface a few years later, possibly under a different name (Blatchford, 1998). The cutting back or even abolition of recess as evidenced in parts of the US and UK may threaten the existence and transfer of playground culture across generations of children (Jarrett & Duckett-Hedgebeth, 2005).

Piaget (1932) and Opie and Opie (1969) suggest that games and their rules are passed down by older children. The processes involved in transmission are complex and may be via peers, older siblings, or even the supervising adults that exist on the playground. The most likely process is through observation of older children playing such games or actual participation in these games. Field notes from the Spencer study illustrate how a young group of boys (7-8 year olds) played a chasing and catching game of 'British Bulldogs' in parallel and overlap with a group of older boys (10-11 year olds) playing the same game. Only the more popular boys from the younger group participated in both games, interacting and talking with the older boys, helping them chase others, running in parallel with them as they were being chased or by actually chasing them. Younger boys were not chased by older boys. The remainder of the group played the game in parallel with the older group. Similar forms of transmission were observed within girls' games. Transmission may be related to social status and function to reinforce social hierarchy such that game rules may be passed down by older children to the popular children in the peer group. In turn these rules may be conveyed to same-age peers through information exchange or rebuke when a rule is broken.

(h1) The role of games and playground activities in peer relations and the development of social-cognitive skills

Games and playground activities in school are also of interest because of their role in the social organization and status of children relative to peers (Boulton, 1992, 2005; Sutton-Smith, 1982) and in the development of friendships and social-cognitive skills (Sluckin, 1981). These aspects are, of course, intimately connected in that social-cognitive skills, and the ability to adapt them, have implications for sociometric status and the nature of relationships with peers in school. In turn the nature and quality of one's peer relations can have implications for the development of particular social and cognitive skills. Games and playground activities can also have a negative side. Social relations can be fractious, and the misery caused by bullying and harassment has to be recognized and dealt with. But it is a salutary finding that students say that the best thing about school is the chance to meet their friends (Layard & Dunn, 2009), and games and play at recess provide the main forum for their social life in school (Blatchford, 1998; Blatchford & Baines, 2006). The negative side of peer experiences during recess such as bullying, deviant peer relations and aggression are relatively rare and will not be covered here (see the following for further coverage: Garandeau & Cillessen, 2006; Hartup, 1996; Nishina, 2004; Smith & Sharp, 1994). In this section we examine the role of games and play activities in developing and supporting peer relationships and providing opportunities for the development of social-cognitive skills.

(H2) Playground activities, peer networks and friendship

There is a large literature on the development of children's friendships and peer groups. This research is too numerous to be covered here (see reviews in Cairns, Xie & Leung, 1998; Dunn, 2004; Gest, Graham-Bermann & Hartup, 2001; Hartup, 1992; Rubin, Bukowski & Parker, 2006; Schneider, 2000). Here we concentrate on friendship relations and peer groups in the context of games and informal contacts between pupils in school.

Playground games and other social activities have a main role to play in friendship relations and the formation of peer groups because it is at recess that peers, perhaps not in the same class at school, have a chance to meet; a time when important social skills can be learned; a time when they can fall out, but can also develop strategies for avoiding conflict. Given the difficulties children may face in meeting out of school (Blatchford & Baines, 2006), recess may be the main setting within which friendships are formed and develop. Similarly, games and other social activities are of particular interest to those studying peer networks. Whilst many studies utilize questionnaires to identify the existence of children's groups (Cairns et al., 1998), there are few that explore how they operate in practice (Adler & Adler, 1998; Baines & Blatchford, 2009). It is very easy to assume

that peer groups have an everyday reality, and that there is a clear boundary between membership and non-membership. Inevitably this is harder to pin down. Peer group membership is reflected by repeated and sustained social interactions during joint activity or 'hanging' around together as well as a psychological sense of identity or belonging. Research on games and playground activities can examine the nature and development of these groups by observing those children that regularly play and socialize together, the relations within these groups and the activities that bind them together.

There are several ways in which activities at recess and in particular games may have a social role in peer relations during the primary school years. Drawing on Blatchford (1998), Hartup (1992) and Pellegrini and Blatchford (2000), we identify a number of roles for playground activities in social relations. A first main role is that play and games can function as a social scaffold which supports social interactions between children when they are relatively new to each other (e.g. after transition to a new school). While the possibility of all children in a class being completely new to each other is rare, there may be a large number that are not familiar with others. The game can support and give a reason for talking to and getting to know peers. Davies (1982) notes how the inherently motivating nature of a game can draw children in, thus assisting with friendship formation and enabling access to a shared peer culture. In their year-long observational study of young children interacting on the playground, Ladd et al., (1988) found that the range of children played with at the start of the year was highest and that this decreased over the year suggesting that children try to maximize potential relationships with others and then allow particular relationships to take priority while others fade. The notion of ready-made games as social scaffolds removes the cognitive challenge of setting up and negotiating the rules and procedures of a new activity allowing players to focus on socialization, learning rules and developing relationships.

A related function of games and other play activities is as a consolidator of peer networks and friendships. We know that children with similar interests and characteristics are likely to form groups and become friends (Cairns et al., 1998; Epstein, 1989; Schmuck & Schmuck, 2001) and the style of game is one main reflection of this with some social groups selecting activities that may involve either vigorous, competitive, sedentary, fantasy, intellectual activity or others. The games children play can contribute to their identity as a group and also represent the means through which social understanding between peers develops. As social groups stabilize so there is a marked reduction in the range of games played (Pellegrini et al., 2004), though there may be an increase in the versions of types of games played (Blatchford, 1998). Games may function to consolidate peer groups first, with friendships within the group developing later. If this is the case, friendship formation may have less to do with the types of games and activities played as other more personal and social factors. On the other hand, friendships and groups may be established in a more bottom up fashion with friendship relations being established first on the basis of a common interest in an activity and then dyads of children with similar activity interests coming together to form groups. Such a model would be consistent with the changes in game group size with age observed earlier (Blatchford et al., 2003; Ladd et al., 1988; Lewis & Phillipsen, 1998) but research is needed to examine this in more detail. Games and other play activities are crucial in supporting these processes and little work has examined friendship and group formation patterns in this context. During adolescence, when students are more concerned with establishing their own identity, common interest in activity continues to have a key role in bringing individuals together. There may be groups with particular interests and identities e.g. skateboarders, console gamers, sporty groups, and groups with an interest in fashion and/or music (Brown, 1990).

Though playground activities can reinforce group differences, they can also help bridge differences, e.g., between different ethnic groups. Social psychologists have long been aware that some form of 'super-ordinate goal' is needed over and above contact and proximity to bring about integration and cooperation (Sabini, 1992). Games and play activities may be more successful at

achieving 'real' and lasting integration than artificial and adult imposed classroom interventions designed to bring ethnic groups together.

Games and play activities can also provide opportunities for social exploration and may lead to the development of new social relationships. This may take place when new games arrive on the playground, when there is a new 'craze' for a toy, activity or media (e.g., cartoons), or when children's interests change. During the Spencer study many of the friendship groups were temporarily disrupted half way through the year by the arrival of the 'Poke'mon' card game and TV cartoon. Children that rarely interacted were observed trading in cards, playing the game or engaging in fantasy play based on this theme. Similarly, an interest in exploring new social relations with members of the opposite sex often referred to as 'border work', can result in new provocative games like 'kiss chase' (Thorne, 1993). Such cross sex encounters act to re-affirm single sex groups but also represent covert interest in and learning about the opposite sex. We know relatively little about these encounters, the persons involved and the implications of participating in them.

(h3) Sex differences in friendships and peer groups

Sex cleavage in peer groups and differences in their size may be explained by diverse play and social interaction styles. In turn, these dissimilar group contexts may have implications for other sex differences (Maccoby, 1998) and may act as principle socialization contexts for future social, gender and peer related behavior (Harris, 1995; Kindermann & Valsiner, 1995). The existence of single sex peer groups is so robust that even efforts on the part of teachers to increase sex mixing are short lived when reinforcement is reduced (Serbin, Tonick & Sternglanz, 1977). The formation of single sex play partnerships begins around the 4th year and continues throughout childhood (Maccoby, 1998). The Spencer research covering middle childhood also found sex cleavage in playground groups with approximately 87% of observations being of same sex groups at 7-8 years and only a slight reduction by 10-11 years (approx 83%). There are suggestions that the existence of sex cleavage in social groups continues into early adolescence and arguably beyond (Maccoby, 1998). Certainly in adulthood divisions between the sexes are sustained in UK and US cultures (at least) in the form of separate socializing practices and work practices (Gosso, 2010).

Theories explaining the formation of single sex groups have focused on a range of social, cultural, and biological/ evolutionary factors. While many potential explanations are possible the view that a complex combination of biological adaptation and social-cultural factors play a role is most likely (Benenson, Apostoleris & Parnass, 1998; Maccoby, 1998; Pellegrini & Smith, 1998; Zaratany, McDougall & Hymel, 2000). Pellegrini (2005) suggests that the formation of homogeneous social groups is an example of children finding physically compatible play partners. Such differences may be the result of prenatal hormones as well as males' tendency to be physically larger which in turn require more physical exercise than smaller bodies (Pellegrini & Smith, 1998). These factors, subsequently, lead to greater levels of vigorous and R&T play, competitiveness and aggression (Pellegrini, 2005). Research findings are consistent with this model in that during the period when sex cleavage in play groups increases, boys' play together tends to be more active than that of girls (Pellegrini, Huberty & Jones, 1995; Ridgers et al., 2006). On the other hand, girls form homogenous groups to engage in more co-operative and sedentary play with shared outcomes and interactions involving greater intimacy and exclusivity (Eder & Hallinan, 1978; Maccoby, 1990). A play preference based explanation also accounts for cross sex game involvement, for example, Alexander & Hines (1994) found that when pushed to choose members of the opposite sex as a playmate, choices were based on similar play interests and play styles. A compatible explanation for sex segregation might arise from a need to develop skills associated with different sex roles. These might be facilitated by parents and other adults (Carson, Burks & Parke, 1993) encouraging particular styles of playful interaction which are then transmitted into the playgroup (Maccoby, 1998). Single sex groups may provide opportunities for

practicing and applying the skills and roles that children observe and identify in adult life. Another possible explanation focuses on the motivation for coming together. Girls may be primarily motivated to form groups to establish and enjoy social relationships with friends and participate in games in this context, boys on the other hand, come together to engage in joint games and play and develop relationships with other boys in this context. That is, for boys the game is the motivation for coming together, for girls it is the social relationship (Eder & Hallinan, 1978; Maccoby, 1990).

Such explanations not only need to explain sex cleavage, but also the existence of multiple play groups within each sex. Might these multiple groups be related to differing levels of physical activity or need for intimacy? More research attention needs to focus on these within-sex sub-groups to see whether explanations also account for these segregations. In the Spencer project groups of males (and to a less extent females) tended to be separated on the basis of the activity with some male groups being associated with team games while others were associated with fantasy play or disruptive activity. Such distinctions might reflect parental interests and socialization. Maccoby (1998) suggests, however, that the influence of parents is more modest and highlights the important role that other aspects of society and culture might play in the formation of single sex peer groups. It may be the case that general preferences for vigorous activity or social intimacy account for sex division and specific play interests account for sub-group formation.

Similarly, Goodwin (2006) has questioned the generality of the view that girls' cliques are based on a need to engage in intimacy enhancing activities and positive relationships. Through an examination of girls' talk within peer groups, her work provides valuable insights into the coalition forming, exclusion creating and relational aggression practices that girls participate in and direct at members of other groups as well as their own groups. The shortcoming in this research is that these analyses are based on observations of a few select groups but it is clear that current understanding is limited in terms of the reasons for segregation and the nature of the social activity that takes place within girls and boys groups.

Another trend inconsistent with explanations for single sex group formation is that outside of school, children in the US and UK are reportedly more likely to play in mixed sex groupings (Pellegrini, 2005; Thorne, 1993). Evidence exploring this trend is sparse, and it might be explained by a limited availability of same sex and age playmates in the home setting (Edwards, 1992). Nevertheless the boundaries between boys' and girls' groups seem much stronger inside school, during middle childhood at least, and this may be related to the presence of many same age and older children along with an overriding peer and school culture. The presence of other peers that can comment on and influence one's social status and relationships with others, either positively or negatively, might function to discourage close associations with the opposite sex and encourage conformity to the expectations peers and older school mates.

(h4) Peer group size

Related to the existence of sex segregated groups is the observation that boys play in larger groups than girls and that girls tend to exist in dyads or small groups (Belle, 1989; Benenson et al., 1998; Feiring & Lewis, 1989; Ladd et al., 1988). A difference in play styles or play interests is reportedly responsible with girls' underlying preference for intimacy-enhancing activities causing them to form small groups (Belle, 1989; Zaratany et al., 2000) and boys' interest in playing competitive team games requiring larger groups (Hartup, 1992). An alternative explanation offered by Belle (1989) and later discussed by Benenson et al. (1998) suggests that boys have an inherent preference for forming larger groups and that boys play team games because of this. While neither Belle nor Benenson offer further explication of the nature of this force, participation in and an opportunity to be promoted up through a competitive social hierarchy might require a

need for larger social groups where boys can demonstrate their prowess or become associated with those considered popular.

Findings from the Spencer project indicated sex differences in the size of playground game networks and enduring peer groups (based on the aggregation of the playground game networks over two weeks of observations). However, once instances of team game activities were removed from the data set and the game networks re-calculated, boys' and girls' game networks became similar in size. This suggests that play preference determines the larger networks reported for boys. When the enduring peer groups are re-examined, surprisingly, boys were still found to sustain larger peer groups than implied by the smaller game networks (Baines & Blatchford, 2009). The implication is that, while girls consistently socialize in their peer groups, some boys interact and play games with different portions of their peer group at different times, thus sustaining an overall group which occasionally comes together as a whole during team games. This suggests that both the centripetal force and 'games determine group size' interpretations may apply – the former being associated with enduring peer groups and the latter game networks. The existence of a second male peer group in every class studied, smaller than the large male group yet comparable in size to those of girls, suggests that the 'centripetal force' model does not relate to all boys. Finally, the simple observation that social networks vary in size in an inverted 'U' fashion between childhood and late adolescence (see Cairns et al., 1998), when social activities change from the playing of games to socializing and hanging around (Blatchford, 1998), provides further support for the 'team games' explanation.

The size, structure and stability of peer groups are likely to have implications for the nature of interactions within them and individual children's self perceptions and social development. For instance, group size positively predicts changes in self perceptions of self worth and peer acceptance (Boulton, 2005). Spencer study findings suggested that girls' groups consisted mainly of friends and those of boys were composed of both friends and non-friends. Girls were more likely than boys to have friends outside of the group, thus enabling them to draw on these friends if their own group separates. Peer group stability was found to be lower for girls than boys indicating that girls were far more likely to be in a position of having to draw on relationships outside of their group and to forge new relationships (Baines & Blatchford, 2009).

(h4) Peer groups as socializing contexts

Segregated male and female play groups may act as socializing contexts such that activities and experiences within these peer groups may lead to the development of different behavioral norms and interaction styles (Maccoby, 1998; Fabes, Martin & Hanish, 2004). In a longitudinal study of preschoolers, Martin and Fabes (2001) found that those boys that played most frequently with other boys at the start of the year engaged in increased gendered activity later in the year. This suggests that the level of same sex involvement is related to level of adoption of stereotyped behaviors at a later point.

Gendered behaviors are also most evident during same sex play interactions with peers rather than when playing alone, indicating that gendered behavior is an important group level phenomenon (Fabes et al., 2004). These experiences with same sex peers may have a self perpetuating effect on learning about and abiding by gender norms. This raises questions about the nature and location of the socializing processes. A number of possibilities are suggested in the literature on peer influence (Brown, Bakken, Ameringer & Mahon, 2008) including direct efforts of coercion by peers (e.g. group leaders or supporters), indirect efforts through the use of antagonistic (e.g. teasing) or rewarding behaviors (e.g. deviancy training – see Dishion, Spracklen, Andrews & Patterson, 1996) and via indirect internal pressures (e.g. to become more accepted by peers, children may be motivated to conform with gender stereotypes). According to Maccoby (1998) boys are quick to establish a stable hierarchy while girls' hierarchies are more fluid and less

stable. Given earlier points about the number and size of groups in a class and the overlap between friendships and group membership, this may suggest that boys, who have more to lose if ostracized, might be more likely to be influenced by peers (Baines & Blatchford, 2009).

The existence of a range of male and female peer groups based around common interest in different games and social activity may involve quite different peer influence processes and lead to a wide range of different values, outcomes, gendered stereotypes and behaviors. Further research in this area could examine interaction and activity in relation to the development and expression of norms, values and socializing influences within peer groups.

(h2) Social status, leadership and other roles

Involvement in games and other activities during recess can provide substantial social knowledge about the nature and behavior of peers. This can be gained through direct interaction, observation of others or more indirectly through the sharing of peer experiences and views. Those children who are unnecessarily aggressive, hotheaded, engage in inappropriate behavior, cheat at games etc. are likely to be avoided or mistrusted, while those who are dominant, prosocial, good at playing, leading and organizing games are likely to be preferred.

Research on sociometric status and dominance in the peer group is substantial and readers are referred to other sources for more comprehensive reviews (Gifford-Smith & Brownell, 2003; Ladd, 2005). Such measures of status, usually derived through peer ratings or nominations of liking, assume that children's preferences are based on their experiences with others. Little recent work has examined the behavioral expression of social status in playground settings. Games and other playground activities are main contexts where social status may be determined and some studies have examined the behavioral correlates of social status. Research by Ladd et al., (1988) examined the play styles of peer accepted and rejected 3½-4½ year olds and found that higher levels of cooperative play and interaction with many different peers at the start of the year predicted gains in social preference at the end of the year. High conflict at the beginning of the year was related to lower social preference, and unoccupied behavior was predictive of social neglect later in the year. Importantly, peer status at the start of the year did not explain behavioral change over the year, though children with low peer acceptance at the start of the year interacted with a wide range of peers at later points in the year. While popular and average peers are quick to find play partners, rejected children wander from group to group, often have difficulties being accepted into play activities and frequently end up playing with younger peers. Marginalized children may eventually come together to form homogeneous groups of aggressive youth which may lead to problems later (Cairns et al., 1998).

A range of other associations between playground activity, behavior and social status have been found. Research by Pellegrini (1988), demonstrates that among boys higher levels of vigorous activity and R&T play were positively related to peer acceptance and social problem solving a year later, while aggression was negatively related to acceptance. Pellegrini (2005) suggests that one of the purposes of R&T play is to establish dominance status in boy's peer groups, though given that it tends to take place within the group suggests that it could have an affiliative function as well. Maccoby (1998) suggests that leadership in boys' play groups is connected to toughness, physical and athletic prowess to assert dominance, while in girls' groups leadership may be affected by different qualities such as peer acceptance. Peer acceptance seems to be associated with positive social interaction with peers (Dodge, Coie, Pettit & Price, 1990; Ladd et al., 1988). But data from Boulton (2005) highlights an important link between playground activity and self perceptions of social status. Boulton found a positive relation between the frequency of game play and self perceptions of social acceptance among boys (of 8-9 years) but this was negative for girls. Conversely a positive relation was found between conversation and status perceptions for girls but this relation was negative for boys.

One limitation of research on peer relations and interaction is that invariably children are observed in an already functioning peer system and therefore research is unable to examine how particular relationships and statuses form or to posit a causal relationship between behavior and social status. In a pioneering study, Dodge (1983) determined that particular behavior patterns were predictive of peer status. In his study, Dodge examined 7-8 year olds who did not know each other at the start of the study, playing in simulated play groups of 8 members for eight one hour sessions over two weeks. At the end of the fortnight, pupils completed sociometric nomination questionnaires. Popular boys had tended to be more cooperative during their play, were the most sought after by peers and sustained interactions for the longest. Rejected boys often displayed hostile, excluding and aggressive behavior. Neglected children also demonstrated inappropriate behavior, though this was less aggressive than for rejected children, and were often observed to engage in solitary play and lower levels of social conversation than other children.

Although some studies have examined the behavioral correlates of acceptance and rejection, much research has tended to focus on the difficult or troubled child. This can be seen in the many studies of the aggressive, rejected, bullied, victimized or withdrawn children (see Ladd, 2005). But the majority of children on the playground do not fall into these categories and there is a more positive side to individual differences in peer relations during games and activities on the playground. Other researchers have aimed to go beyond abstract conceptions of social status based on acceptance and rejection to identify alternative ways of examining and representing status in every day settings. Such studies aim to identify different types of persons on the playground relative to leadership and social involvement in playground activities. Iona Opie (1993) refers to the 'kingpins of the playground' who through their ability to tell stories and jokes enjoy great popularity among peers. Haslett and Bowen (1989, reviewed in Erwin, 1993) classified differences in the social skills of five year olds in terms of three types: 'agenda setters', who tended to initiate and dominate play, and to be active physically and verbally; 'responders' who reacted appropriately to play bids and maintained interaction without establishing the play agenda or initiating change; and 'isolates' who responded inappropriately and were insufficiently persistent and often overlooked.

Adler and Adler (1998) in an ethnographic longitudinal study also refer to different positions in a status hierarchy within the whole peer network (e.g. a class) and within peer groups. Within peer groups, Adler and Adler differentiate between leaders, second tier members, followers, wannabes and others that are not part of the clique, either because they have been ejected or because they were never involved with the clique. Children in more dominant and senior position utilize a range of inclusion and exclusion strategies to sustain their dominance and position. However the various intra- and inter-group strategies outlined present a negative picture of peers engaging in highly competitive and cutthroat strategies to sustain their power and dominance. Little mention is made of positive attributes such as cooperation, prosociality, joking, storytelling etc that have often been associated with more conventional characterizations of popularity and dominance. The extent to which the patterns outlined by Adler and Adler are representative of peer relations processes more generally needs further investigation.

The Spencer project examined the degree to which children were actively involved in instigating and engaging in games and other activities and proposed the notion of 'game involvement' which involved five types of player. These were: Key, Central, Team, Hoverer and Solitary (Blatchford, Baines & Pellegrini, 2001). 'Key players', as Blatchford (1998) referred to them, appeared to have a central role in the organization and development of playground activities and peer groups and friendships. Playground observations and interviews with children identified other children who were also heavily involved in playground activities but who tended to follow the key players. These were central and team players with the former being far more vocally and actively involved in the organization of the activity than the latter who tended to listen and follow the game.

There were also others who were less involved, and more on the edge of activities sometimes hovering from game to game and group to group, and there were some who were disconnected from any peer groups or playground activities (Blatchford et al., 2001). Research by Goodwin (2006) provides insights into the social activity and conversations of girls that might be described as key and central players and how these girls can act to intimidate and exclude a 'hoverer', or 'tag along', as Goodwin refers to them.

Medium strength correlations ($r=0.6$) were found between the game involvement measure and nomination measures of leadership and suggesting games to play, observed frequency of social involvement on the playground ($r=0.5$), active network size ($r=0.5$), and nominations of peer acceptance, friendship, and athleticism (all above $r\geq 0.3$). However, game involvement was not related to measures of observed, peer nominated and teacher-rated aggression nor was it related to a measure of teacher rated prosociability (Blatchford et al., 2001). This finding is consistent with measures that acknowledge a role of dominance, aggression and cooperation in leadership and popularity (Adler & Adler, 1998; Parkhurst & Hopmeyer, 1998). Sex differences in the predictors of game involvement were found which indicated that for males becoming more involved in playground games was more connected to suggesting games, while for females game involvement is more connected to social relations with peers. Highlighting a similar construct Pellegrini et al. (2004) found that game facility (the aggregate of nominations of athletic, teacher ratings of good at games and sport, observed frequency engaged in games and the number of peers in their immediate game group) among first graders was related to social competence and school adjustment later in the year, in US children but not those from the UK.

Notions of agenda setters or key players are connected more closely to peer groups than the whole peer network (e.g. class) and strong overlaps may be expected with constructs such as leadership and network centrality, dimensions that are, according to Gest et al. (2001), themselves correlated ($r=0.39$). This implies that the key player might be the day-to-day behavioral expression of a person with high network centrality, at least with regard to children's peer groups. Key players may be the most influential in relation to their own peer group and the playground activities that they are engaged in but, given the varying overall status of different groups, may hold varying levels of influence outside of the group.

Changes in individual status may take place when there is a dramatic shift in social context. Sluckin (1981) describes a boy who on transition between schools lost status from what looked like being a key player to someone rather excluded and on the edge of peer friendship groups. This reflected sadly on his drop in social standing, which had previously depended on an aggressive style not now taken seriously by others. It may be that particular values and forms of behavior linked with popularity in one context may or may not be associated with acceptance in another. Peer groups in different schools can have different sets of values and a child's sociometric status may be determined partly by these values (see Blatchford & Baines, 2010). Alternatively, transitions may accelerate changes that might have happened anyway with development – that is a child's declining popularity might decline more rapidly between schools. At transitions, peer relations and status have to be renegotiated and successful adjustment depends on how many supportive and or friendly peers there are from one's previous school (Berndt & Keefe, 1995).

(h2) Games as a context for the acquisition of social-cognitive skills

At an individual level, participation in activities during recess involves children drawing on and potentially developing various social, cognitive and linguistic skills (Sluckin, 1981). Observations of the behavior and language that takes place in these settings can inform us about children's cognitive and social development. The cognitive, social and organizational skills involved in initiating, developing and playing games with a number of peers may be relatively unique to this context and will contribute to their development (Waters & Sroufe, 1983). Bruner (1972)

emphasized that games and play allow opportunities for the playful practice of important behaviors that can be combined into more useful problem solving strategies and skilled activities. Different aspects and types of games and activities might contribute to social and cognitive skills in different ways. Some straightforward games (such as chase and be chased) may require few cognitive skills (Pellegrini, 2005) while others that involve hiding, seeking, rescuing, physical and social coordination etc may help the child develop more sophisticated cognitive, social and motor skills. Children go to great lengths to decide the game they will play, the roles that players will adopt and to negotiate the rules that will be in place. Such occasions often lead to arguments and heated discussions and may therefore exercise children in their decision making, problem solving, conflict resolution and reasoning skills which can lead to improved social understanding and perspective taking. A one year longitudinal study of second and 5th graders by Borman and Kurdek (1987) found that observed game complexity was positively related to interpersonal understanding for girls but negatively related for boys. However, the Spencer study found that in the US but not the UK, game facility was related to social competence (Pellegrini et al., 2004). Other studies have suggested that reduced opportunities for, and experiences of, play with peers may result in lower levels of perspective taking (Hollos 1975; Le Mare & Rubin, 1987).

Bruner (1972) also suggested that play may contribute to first language development in the early years and later, the development of essential skills for engaging in conversations and negotiations with peers. In playground contexts children must use language to negotiate access to games (Putallatz & Gottman, 1981). Games provide rare opportunities for children to engage in and sustain group talk, effective conflict management and to use many other forms of advanced communication skills that children and young people often have difficulties with (Baines & Howe, in press; Baines, Rubie-Davies & Blatchford, 2009). While many of these skills are not particular to games, there is a sense in which these peer contexts are particularly powerful given the highly motivating nature and absence of adult involvement. However, games and play contexts are relatively unique in the opportunities they provide for children to collaborate with peers and thus may be one of the main settings in which collaborative skills are developed. This highlights the importance of such opportunities given the absence of opportunities for collaborative learning and collaborative skills training in classrooms (Baines et al., 2003; Galton et al., 1999).

Sluckin (1981) argued that recess offers children opportunities for peer interaction in the context of which many lessons relevant to adult life are learned. He draws out rules that are implicit in the ways children play and deal with each other on the playground. These rules, originally negotiated in the playground, form the bases for broader peer interaction patterns in school. As more recent commentators have highlighted these skills are also important for social success during childhood (Pellegrini, 2005; Smith 2010).

(h1) Games, learning and school adjustment

Games and social activities may have important implications for learning and adjustment to school. We have just discussed how games in themselves and as context for peer interaction may contribute to the development of social-cognitive skills and a number of theorists have discussed the connections between play, games and learning or cognitive development (Bruner, 1972; Piaget, 1962; Vygotsky, 1978). Games and playground activities in school may contribute to learning and engagement in class, both directly in terms of the development or consolidation of academic skills, but also more indirectly through the development of positive peer relationships and by providing enjoyable experiences in school. In this section we consider firstly how games and playground activities might relate to learning and engagement in class and then in relation to school belonging and adjustment.

(h2) Learning and engagement in the classroom

Play can be conceived as a natural inclination of an organism to learn, adapt and develop the skills required for immediate and eventual later use. That is, play assists with the development and informal education of the child to adapt to their environment and learn the skills that will enable them to survive and succeed. This view is consistent with that conveyed by Pellegrini, Dupius, and Smith (2007) who emphasize that formal schooling is a relatively recent phenomenon and that play, along with exploration, may previously have been the main way that children acquire the skills and innovative abilities associated with everyday life. Gosso et al., (2005) go so far as to question whether formal education replaces the types of learning benefits resulting from participation in games and other play activities. Indeed the skills learned within the context of games and activities (especially in terms of social development and collaboration) may not be supported by formal learning opportunities within classrooms.

But are play and games related to engagement and learning in the classroom? Though rare, some research has examined the effects of games and playground activity on children's learning and engagement in school during middle childhood. Borman and Kurdek, (1987) failed to find any connection between game complexity engaged in and non-verbal logical reasoning. But both UK and US components of the Spencer research found game involvement or facility with games to be associated with school adjustment and achievement but also were related uniquely to progress over time (Pellegrini et al., 2002; Blatchford et al., 2001). This suggests that those most involved in games and the most facile in game activity are likely to adapt better to school. However, given the correlational nature of the data other interpretations cannot be ruled out.

Play can be highly repetitive in character and thus useful for children to consolidate their understanding and learning (Gosso et al., 2005; Rubin et al., 1983). There are also resemblances between games and classroom learning activities (e.g. counting rhymes and number, creativity in fantasy play and creative writing skills). But these commonalities are limited and the extent to which skills transfer across contexts is also questionable. Games and other social activities may have more of an impact on social understanding, perspective taking, an ability to sustain attention and activity, to regulate one's own behavior as well as that of peers, to engage in team work and communication skills, and other 'life' or 'soft' skills. Though often considered secondary to main areas of learning, such life skills are the ones reportedly missing from the curriculum and that are highly valued in the workplace (Cowie & Ruddock, 1988).

There have been a range of studies undertaken that examine the effects of games and play, broadly defined, on children's attention in the classroom. These studies have primarily involved manipulating the length of a lesson leading up to a recess period and/or students' ability to engage in physical activity. These studies have suggested that the longer children are expected to focus their attention on a task the less likely they are to be attentive (Stevenson & Lee, 1990; Pellegrini et al., 1995), and that task attention is greater after a period of recess than towards the end of the lesson immediately prior to recess (Pellegrini et al., 1995). Another study found that children aged 9-10 years were more engaged and less restless in the classroom on days when they had had recess period (Jarrett et al., 1998). These studies are somewhat limited, not least because it is impossible to determine whether the effects are due to having a break, or opportunities for play, physical activity, or for socializing with peers. Where games might more clearly support learning and engagement in the classroom is indirectly through the general positive effects they have on helping children to foster social interactive, cognitive and problem solving skills and most importantly in their support and development of children's relationships and friendships. Games and friendships offer opportunities for co-operation, reciprocity, effective conflict management, intimacy, commitment, and self disclosure (Hartup, 1992). All of these skills are important for learning interactions within the classroom (Zajac & Hartup, 1997). There is evidence that when working together friends perform better than non-friends, especially on complex tasks. This is because they know each other better and thus their collaboration is more effective with more

evidence of cooperation and productive conflict supported by reasoning (Zajac & Hartup, 1997). It may be the case that a history of interactions with friends during games and play activities at recess provides friends with the skills required to be successful at complex interactive tasks in classroom settings. The possible connections between game play, peer relations and learning within the classroom deserve more attention from researchers.

(h2) School belonging and adjustment

Games and play activities may not, on first look, be considered to have an immediate relevance to adjustment to school. Yet the fact that recess can take up a sizable portion of the school day in many communities, that it is almost unanimously cited by children as a main reason for coming to school, one of main things enjoyed at school, and that it forms some of the most memorable experiences of children's school lives is a testament to its importance in school life. The inherently motivating nature of participation with friends in games and activities during recess may significantly affect feelings of school belonging. Integration into playground groups and positive social relationships with peers may play a key role in children positively adjusting to school. Recent motivational theories have emphasized the importance of belonging or relatedness for adjustment to school (Connell & Wellborn, 1991; Osterman, 2000). The extent to which this need is fulfilled predicts engagement and performance within the school context, and contributes to the adoption of goals defined by the institution and the social groups within it (Connell & Wellborn, 1991). But it might not always be the case that games and other social activities are positively related to school adjustment and belonging. Sociological research suggests that schools can have a cohesive peer culture that is anti-school and anti-learning; it is quite possible for students to feel a sense of involvement and belonging to the peer group but not feel any connection with the ethos or values of the school and academic life (Schmuck & Schmuck, 2001). There is a clear need for further research to begin examining the important role that games and activities during recess may play in adjusting to school.

(h1) Conclusions and future directions

There is a wide range of literature related to a discussion of children's games and activities on the playground which is testament to the relevance and importance of games for the child's approach to and location in society and their social and cognitive development. This chapter provides just a snapshot of this work and we hope we have done it some justice. We have discussed how games, on the one hand are quite different from some other forms of play whilst also trying to present games as a continuation of the development of play in children. Both Sutton-Smith (1976) and Vygotsky (1978) highlight the changing nature of the motivations for engaging in play such that the emphasis and nature of play changes with development. Games and play activities in school both reflect cognitive and social development but also appear to provide a main opportunity for experiences to influence development, for skills and knowledge to be tested and social issues examined in more detail. We have tried to highlight the important role that games have in peer relationships both in terms of the functioning of peer groups and friendships but also as occasions where they can find out about peers and themselves. Games and social activities seem to have a particular role in supporting the formation and sustaining of peer groups and friendships during middle childhood and adolescence. It is within and between these groups that powerful socialization effects have been proposed by the likes of Harris (1995) and Fabes et al. (2004) and there is a need for a fuller understanding of the processes that are associated with peer influence. A main way that this can be achieved is by undertaking research that examines interactions during play and games at recess. Similarly, given the different structure and size of these peer groups there are constraining effects that might have implications for the types of experiences that children will have and in turn these will influence the types of social-cognitive skills developed.

Games and playground activities are particularly important for the development of a wide range of skills associated with interactions with people of similar status, including social-cognitive skills as well as others not discussed here (e.g. emotional skills and moral understanding). This is simply because there appear to be few opportunities for these skills and relationships to be developed elsewhere inside or outside of school without the presence of a potentially over dominating adult. We have also suggested that games are important for learning and engagement in class as well as school adjustment. This principally seems to be an indirect relationship through peer relations and the development of other social–cognitive skills but also emphasizes that pupils’ significant enjoyment of recess may contribute to feelings of school belonging which may also enhance school adjustment.

One question that might be raised given the broad importance suggested here of games for children’s peer relations and their development of social-cognitive skills, is whether games are necessary for children’s development? There are at least two ways in which we might see play and games as enhancing development. The first is in terms of it offering up special experiences and opportunities for the development of particular skills that other everyday non-play activities do not provide and which are necessary for development. The second way of viewing the value of play is as an extension of everyday experiences where play provides a further context for the development of particular skills and involvement in processes. Smith (2010) on reviewing the evidence suggests that currently it does not support the view that play is a developmental necessity. Most studies in this area involve correlational designs and thus our ability to infer causality is extremely limited. Determining whether play or games are a necessity requires a clear conceptualization of what play is and is not, unfortunately this is not by any means clear and play involves a multiplicity of social, cognitive and emotional ‘activity’ and experiences. Furthermore, it might not be play that is important but rather the opportunity that play provides for peer interaction and the learning of associated skills. While many children will have multiple opportunities to socialize with peers, there are also a number that have few opportunities for engaging in social interaction and play with a range of peers outside of school. It is these children that may be at a disadvantage when it comes to socializing with peers and the development of particular social and cognitive skills. While these skills will not be an absolute necessity to their development, they may be at a distinct disadvantage without them.

There is a need for further detailed work in this area that can examine children’s day-to-day experiences during games, play and other social activities. In order to capture important detail in terms of interactions as well as how they relate to broader social structures like peer groups and sociometric status, research will need to involve complex multi-method and even mixed method designs that can focus on the specifics of rich and meaningful interactions as well as provide insights into general patterns across pupils and playgrounds. The work of ethnographers and others in this tradition is extremely valuable, particularly in providing new insights, but needs to be combined with other approaches to provide insights into how widespread and exclusive such findings are.

We have noted the importance of taking account of the school and playground context and materials available to children which may influence the types of play and games that children participate in. In the Spencer project we identified a number of ways in which pupils’ experience of recess and peer relations varied across schools (Blatchford et al., 2001). The nature of the school grounds as well as the policies and ethos of the school can affect games and the relationships between peers in distinctive ways (Titman, 1994). There is evidence in the literature that classroom organization (e.g. in terms of seating, teaching approach, and tracking) may influence the relationships between peers (Schmuck & Schmuck, 2001). Playground culture and peer relations in schools are therefore likely to be best conceived as something emerging in context and affected by the school culture and environment. Epstein (1989) has said: "*It is no longer feasible to study or*

explain the selection of friends with attention only to psychological constructs and child development terms. It is also necessary to give attention to the designs of the school, classroom, family, and other environments in which peer relations and the selection and influence of friends take place" (p.183). But we know very little about how schools affect children's games, peer relations and their experiences of recess. This is clearly an area requiring future study.

We have considered how games and playground activities and peer relations may be associated with learning, engagement and school adjustment but there is a tendency for teachers and schools to view playground activities and peer relations as separate to what goes on inside school. In other work we have suggested that teaching and learning practices in classrooms, particularly during group work, can beneficially utilize the positive ethos and relationships that are constructed on the playground (Blatchford & Baines, 2010). We have suggested the value in a 'relational approach' to classroom teaching and learning which aims to develop, extend and make use of the processes developed in friendship relations to support the development of further communication, group planning and advanced group working skills for implementing group interactions in the classroom (Baines, Blatchford, Kutnick et al., 2008). The processes involved in group learning and in informal interactions between friends may involve similar skills and qualities (e.g. perspective taking, mutuality, conflict resolution, problem solving and trust). Informal relationships between peers can allow feelings of 'psychological safety' (Van den Bossche, Gijsselaers, Segers, & Kirschner, 2006), where children feel comfortable expressing their views and opinions publicly because they know that these will be listened to, valued and respected.

Experiences of games and behaviors during recess can also be utilized in classroom learning in another way too. There are a rich set of social and moral dilemmas and experiences that take place on the playground. The difficulties that teachers know arise at recess can be viewed as positive opportunities to engage in discussions with pupils about social and moral dilemmas and provide greater involvement of pupils in school decisions and management (Blatchford, 1998), within a social and moral framework provided by the school.

We end this chapter by returning to the discussion of the importance of recess in schools. As we have suggested opportunities for play, games and social activities outside of school appear to be declining and there is a trend toward restrictions on pupils' unsupervised activities with friends. Greater control of children's freedom and independence risks losing the positive benefits of play, games and peer relations for social-cognitive and moral development and wellbeing more generally. There are, however, moves in this direction (Margo & Dixon, 2006) with schools reducing or abolishing recess or flooding it with adult led activities. However in cases where there is bullying, aggression and anti-school feelings among peers, the danger of not acting could lead to the same conclusions and destructive effects on social well-being and learning. An important issue for schools is to get the balance right, and Blatchford (1998) discusses ways to achieve this.

Recess can also be seen as part of a solution to many modern social and moral problems. Whilst schools and teachers can be effective in teaching children about social and moral understanding, children also learn from their own experiences, mistakes and reflections. Similarly recess offers the main opportunity outside of physical education, to get exercise that contributes toward a child's daily requirement and thus may help resolve problems with sedentary behavior. It is clearly difficult to get the balance right, but a coherent approach to the provision, timing and management of recess and peer relations in schools could do much to improve children's experiences of learning and school.

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